THE

TRUSTEES' ACCOUNT

OF

THE CATTLE SHOW,

AND

OTHER EXHIBITIONS,

AT TOPSFIELD,

OCT. 5, 1820.

SALEM:
PRINTED BY JOHN D. CUSHING.
1821.

TRUSTEES' ACCOUNT, &c.

This being the first essay of the Essex Agricultural Society, a splendid exhibition was not looked for. The experiment has shown the necessity of different arrangements, which shall admit of a more convenient and satisfactory inspection of articles presented for premiums—of time to consider the merits of each —to write the reports thereon, by the various committees, and to publish, and deliver to the successful candidates, the premiums which shall be awarded. The want of such arrangements has been the chief cause of the delay in publishing the transactions of the day. The Trustees subjoin to this account a plan which they hope will effectually remedy, in future, the inconveniences which have attended the first essay.

REPORTS OF COMMITTEES.

No. I.

WORKING OXEN AND NEAT LIVE STOCK.

The Committee appointed to examine *Working Oxen* and *Neat Live Stock*, and to award premiums, have attended to the duty assigned them, and respectfully

REPORT,

That the number of large and superior working oxen far exceeded their expectations, demonstrating their utility and superiority in the labours of the husbandman, and the importance of the requisites prescribed by the society, to entitle them to premiums; inasmuch as among the many excellent cattle exhibited, and which rendered it in some cases a matter of very careful discrimination to whom the prize should be awarded, there was

an obvious deficiency in training them to their highest usefulness, which might otherwise have secured the premium. Under these impressions,

They have awarded the first premium, for the best trained working oxen, not less than five years old,

To Mr. Samuel Wheeler, of Newburyport, for a yoke of oxen owned and driven by himself—fifteen dollars.

To Mr. Samuel Hood, of Topsfield, the second premium for his yoke of oxen, five years old, of a deep red colour—ten dollars.

The premium for the best bull, not less than one year old, to Asa Andrews, Esq. of Ipswich, for his dark brindle bull—fifteen dollars.

The second to Jacob Wilkins, of Marblehead, for his red bull, —ten dollars.

The third to Gorham Parsons, Esq. for a dark red bull, from his farm in Byfield—five dollars.

It was a subject of regret to the committee, on examining the milch cows, that so few were entered for premiums; as they are always a great object to the farmer, both for the dairy and his future stock; and it being so obvious that a first rate cow requires no more expense for her support than an inferior one—requiring of the farmer only some care in selecting his stock for breeding; for he seldom if ever gives or obtains, in exchange, between a superior and a common cow, more than the difference of profit for a single year; always leaving him who takes the common one impoverished by the exchange. It is not believed that the sample exhibited bears any proportion to this valuable animal through the county, cultivated as it is by capable and enterprising farmers. The cause of the deficiency, at this exhibition, must be attributed to the undue expectations raised on this subject—and it cannot be doubted will be remedied at the next anniversary.—They remarked however with satisfaction, that those intended for premium were very superior—there were also several others exhibited, but not intended for premium, that were very fine, particularly a cow and her progeny belonging to Asa Andrews, Esq. of Ipswich, being the same stock of the bull that obtained the first premium, and a cow of

the famous Bakwell breed, belonging to the Hon. Timothy Pickering—and several others.

They adjudged the premium for the best milch cow to Mr. Jacob B. Winchester, of Salem—fifteen dollars;

And for the second best to Samuel Farrar, Esq. of Andover, —ten dollars.

For the best bull calf to Mr. Jonathan Berry, of Middleton, —five dollars.

For the second best to Samuel Farrar, Esq. of Andover,— three dollars.

For the best heifer calf, to Mr. Simon Smith, of Saugus—five dollars.

For the second, to Hon. Timothy Pickering—three dollars, for his calf raised from native stock.

It was particularly gratifying to see the large number of bull and heifer calves, entered for premiums, evincing as it does the interest already excited by this exhibition, and the spirit of improvement which is so happily extending throughout the county. Should this spirit continue, it is not difficult to anticipate the period not far distant, when the neat cattle of the county of Essex will vie with any part of this country for beauty and worth.

Which is submitted by

BENJAMIN T. REED,

Per order of Committee.

No. II.

FAT OXEN AND SWINE.

The Committee appointed to award premiums on *Fat Oxen* and *Swine*, have attended that duty, and

REPORT,

That no fat oxen were offered.

The Committee award—

To Mr. George Adams, of Newbury, for the best boar—eight dollars.

To Mr. Samuel Hood, of Topsfield, for the second best boar, —five dollars.

To Mr. Elias Putnam, of Danvers, for the best breeding sow, —eight dollars.

To Mr. Benjamin Savory, of Newbury, for the second best, —five dollars.

To Mr. Elias Putnam, of Danvers, for the best litter of weaned pigs—six dollars.

To Mr. William W. Little, for the second best—four dollars.

The Committee add, that Mr. Amos Shelden, of Beverly, exhibited a very fine boar, the breed of which, in their opinion, deserves encouragement; and that Col. Jesse Putnam, of Danvers, exhibited four pigs, three of them very fine.

PAUL KENT,
JOS. WINN,
STEPHEN ABBOT,
JERE. COLMAN,
} *Committee.*

No. III.

INDIAN CORN AND POTATOES.

The Committee to examine claims, and award premiums, for *Indian Corn* and *Potatoes*, have attended to the duty assigned them, and

REPORT,

That Tristram Little, of Newbury, is entitled to the first premium on Indian corn, having raised 103½ bushels on one acre—fifteen dollars.

That James and Stephen Hathaway, of Marblehead, are entitled to the second premium on Indian corn, having raised one hundred and ninety bushels and seventeen quarts on two acres, eight rods and twenty two links—ten dollars.

That John Dwinell, of Salem, is entitled to the first premium on potatoes, having raised three hundred and ninety eight and a half bushels on one acre—fifteen dollars.

That Col. Jesse Putnam, of Danvers, is entitled to the second premium on potatoes, having raised three hundred and ninety seven bushels on one acre—ten dollars.

JACOB B. WINCHESTER,
for himself and
TEMPLE CUTLER,
} *Committee.*

EXPERIMENTS WITH INDIAN CORN.

Mr. Tristram Little (to whom the first premium was granted) states his comparative experiments of planting in hills and in double continued rows, in the following manner.

He selected two acres of about the same quality, the soil a dark clay mould, which in 1819 received four cords of manure to the acre, were planted with potatoes, and yielded, per acre, about two hundred and eighty bushels.

In May, 1820, he ploughed the whole about nine inches deep, and about the middle of that month began to plant his corn. On one acre he opened double furrows two feet apart, leaving a space of five feet between the double furrows. In these furrows he strewed ten cords of manure, and with a back furrow to each, covered the same. He then dropped his corn, the grains eight inches apart; and then, by turning another furrow, covered the corn; which was thus left in double rows two feet apart.

The other acre he planted in hills, equally distant each way, making twenty-six hundred hills in all; which gave 16⅝ square feet to each hill—that is, the hills were a fraction more than four feet apart. To this acre he applied six cords of manure, of the same quality with that used on the other acre.

About the 21st of October he finished harvesting his crop. The produce in favour of the hills was as 20 to 19 in the double rows. He remarks, that when corn is thus planted in continued rows, these should run north and south, [that the sun may shine equally on both sides.] His run east and west; and he thinks the north row was not so good as the south, by one third part.

The acre planted in hills received sixteen days labour, including the team: the acre in double rows, two days more.

The Messrs. Hathaways, to whom the second premium was awarded, state, that their field was, in 1817, a common rough pasture—was broken up in 1818, planted with Indian corn, with a common quantity of manure—and yielded a large crop. In 1819, about the usual quantity of manure from privies was ploughed in, and corn planted. It yielded 80 bushels to the acre. In 1820, twenty cart bodies full of the same kind of ma-

nure as in 1819 (that is, night soil from privies) were ploughed in, and corn was planted on the 12th of May, in hills three feet apart, five grains to a hill, carefully distanced. It was hoed twice, but would not admit of a third hoeing, from the crowded state of the field: the first hoeing on the 3d of June, the second about the 23d. It was harvested the 29th of September, and yielded one hundred and ninety-nine bushels and a half of corn. The quantity of land two acres, eight rods and twenty-two links, or nearly two acres and nine rods; giving ninety-seven bushels of corn to the acre.

The preceding two premiums for Indian corn were all that the trustees had proposed to offer. But they think it expedient to notice the claim of Mr. Samuel Day, of Ipswich. His intention appears to have been to plant an acre; but when measured, the piece fell short by seven rods. His product, however, was ninety-one bushels—or at the rate of 95 bushels to an acre. He states that this piece of land, of a kindly soil, was broken up in May, 1819—furrowed both ways, at the distance of four feet seven inches—had ten loads of barn manure put in the hills, (the crossings of the furrows) and five grains of corn to each dropped on the manure, and covered—that the crop was ploughed and hoed three times, and produced forty bushels.—That in 1820 the same piece of land was thus managed: On the 1st of May the hills were split—the ground harrowed, and then ploughed, finishing this operation, on the 2d, in the forenoon; and on the same day he furrowed it deep *one way only*, the furrows three feet seven inches apart. On the 3d, fifteen loads of barn manure were strewed along the furrows. On the 4th, the corn was planted, being dropped on the manure, three grains in a place, at the distance of 18 or 20 inches; the quantity of seed used, one peck. On the 2d of June, two hands ploughed two furrows between the rows, and hoed it. On the 20th, two hands ploughed one furrow between the rows, and hoed it; and July 6th, two hands, in the afternoon, gave it a dressing with their hoes.

In considering this case, the Trustees are of opinion that Mr. Day's experiment merits special notice; and they award to him a premium of eight dollars.

EXPERIMENTS ON POTATOES.

Salem, November 16, 1820.

GENTLEMEN,

I received your favour of the 1st instant, and shall now endeavour to comply with your request respecting the crop of potatoes on an acre of Messrs. Wait and Peirce's land, in Bridge street.

1st. As to "the quality and state of the land in 1819." It was grass land, and was broken up early in December.—Soil black.

2d. "The produce and general state of cultivation, and the quantity and kinds of manure applied to it in that year." The produce had always been English grass, since I was first employed upon it, which was nearly thirteen years ago; and it was never broken up during that time, till last autumn. There was always a good crop. No manure was put on it in 1819.

3d. "The quantity and kinds of manure applied to it in 1820." Nine cart loads, for one yoke of oxen, of barn manure.

4th. "The quantity of seed used, and of potatoes the sort." Twenty bushels of common white potatoes.

5th. "The times and manner of sowing and planting, weeding, tilling and harvesting the crop, and the quantity of labour employed in its production." Four days labour for myself with one yoke of oxen were employed in ploughing twice, harrowing twice, and furrowing. It was planted early in June, in hills three feet (large) apart, a shovel full of dung (from the above nine loads) was put into each hole. Three days labour employed in planting. It was weeded the latter part of June; labour three days. It was ploughed between the hills and half-hilled about the middle of July; labour one and a half days. Crop harvested about the 1st of October in the usual way; labour eight days. The *whole* quantity of labour employed in the production of the crop, (besides that of the oxen) was nineteen and a half days.

6th. "The amount of the crop, to be ascertained by measuring or weighing." Three hundred and ninety-eight and a half bushels of potatoes.

In addition to my own declaration of the foregoing particulars, I enclose to you two certificates showing the measure of the land and of the crop.

With great respect, I am

Your most obedient servant,

JOHN DWINELL.

To the gentlemen composing the committee on corn and potatoes.

I hereby certify that on the fourth day of October, at the request of Mr. John Dwinell, I measured a lot of land by Bridge street, in Salem, owned by Messrs. Wait & Peirce, having thereon potatoes, and staked out one acre, being part of the same lot. JONATHAN P. SAUNDERS,

Sworn Surveyor.

Salem, October, 1820.

We hereby certify that the quantity of potatoes raised this year on the acre of Messrs. Wait & Peirce's land, in Bridge street, which was measured and staked out by Mr. Jonathan P. Saunders, was three hundred and ninety-eight and a half bushels. MOSES PETINGIEL,

HUGH BOYES.

Statement of the cultivation and produce of an acre of land planted with Potatoes in the year 1820, *by Jesse Putnam.*

The land is situated on the eastern side of Ingersoll's hill, so called, in Danvers; the soil is strong; it is very full of small and middling sized stones, so as to much impede the ploughing; and a considerable number of stones are so large that it will be necessary to blow them before they can be removed. The land is moist on the part planted with potatoes.

There is on it a young orchard of apple trees, of different ages, from 12 to 20 years; and there are other apple trees around the lot, which shaded it in many places. The principal object in ploughing was to benefit the trees.

It was broken up in 1819; it was then exceedingly rough, and had been ploughed but once for more than thirty years.

In 1819 it was planted with corn and potatoes, principally with potatoes. There were about four cords of manure put upon it. It was hoed the usual number of times, but on account of being very rough, it was but imperfectly subdued. It yielded about one hundred and forty bushels of potatoes, and about twenty bushels of corn.

In 1820 the hills were split early in the spring, two furrows in a row; afterwards it was ploughed once over. The time occupied in ploughing was one day with three cattle.

It was then harrowed with a common iron tooth harrow. It was furrowed one way, the rows four feet apart; the manure was placed in hills two feet apart, and the potatoes were dropped on the manure, one potato in a hill. Some of the potatoes were cut into several pieces; but those that were not cut yielded the best. There were seven and a half cords of manure put upon the land, six cords of them made in the cellar under the barn; a large proportion of it was made of coarse meadow hay and straw, that were thrown under the cattle for them to lie on.

One cord and a half of the manure was taken from a slaughter house yard. The potatoes planted on that did not yield so much by nearly one half.

The largest proportion of the potatoes planted on this lot were of the red kind, the remainder the common white potato, thirty-seven bushels were planted about the 18th of May.

The potatoes were hoed three times; twice with ploughing and once without; and the weeds almost entirely destroyed. About six days labour were spent in hoeing, together with the time taken up in hoeing round the apple trees. The crop was gathered about the middle of October; the labour of gathering I estimate at nearly three cents per bushel. The number of days work I cannot accurately ascertain, on account of their having been dug at different times, and a considerable proportion by small boys. As to the quality of the potatoes, I know no difference between the value of the red and white: I have

found in the market the price to be the same. For feeding cattle and hogs the red is the most valuable.

The whole quantity produced on the lot as above described was three hundred and ninety-seven bushels.

JESSE PUTNAM.

November 22, 1820.

I certify that I was present and saw measured all the potatoes, raised on the lot of land above described by Col. Jesse Putnam, and that there were three hundred and ninety-seven bushels. DANIEL PRESTON.

Danvers, November 22, 1820.

I hereby certify that I surveyed the field of land before mentioned, as planted with potatoes by Col. Jesse Putnam, on the 19th day of October, and found it to contain one acre and four poles. Also, that there is now growing on this field about fifty young apple trees; and that, in my opinion, the injury arising to the crop, from the shade of these trees, was more than sufficient to balance the extra number of poles above one acre.

JNO. W. PROCTOR.

No. IV.

ON MANURES.

The committee appointed to examine and report on the applications for the premium offered "For a statement of the best mode and means, in the power of farmers generally, and drawn from the claimant's own practice, of increasing the quantity and improving the quality of manures; of their effects when applied to the land, and of the manner of applying them," have considered the two statements which have been presented, one by Benj. T. Reed, Esq. the other by Asa Andrews, Esq. and submit to the Trustees the following

REPORT.

The attention of Mr. Reed in collecting materials for his compost manure, the preparation of his low ground, by draining, for its reception, and the largeness of his products, being about four tons of hay to the acre, including the second crop, prove his management to have been judicious. But the committee observe nothing in the process which was not already known, though too little practised. Some important materials, also, kelp, rockweed and eel grass left by the tide, are within the reach of only a very few farmers, living on the sea-coast. Nevertheless, as the example of such care, diligence and success, may tend to excite others to similar exertions, the committee submit to the Trustees the expediency of publishing Mr. Reed's letter, together with their thanks for the communication.

The like observations the committee think applicable to Mr. Andrews' statement: but his communication being of great length, an abstract of it is herewith presented to the consideration of the trustees.

T. PICKERING,
DAVID GRAY,
DANIEL PUTNAM, } *Committee.*

January 4, 1821.

Marblehead, October 4, 1820.

DEAR SIR,

For about eighteen or twenty years past I have made a practice of making manure from every article of rubbish and filth that was in my way about my house, wharf, &c.

About twenty-two years since, a piece of land came into my possession, containing about two acres of tillage and five acres of low, moist, flat land, with two water courses passing through it, which met and passed off under a town bridge. The passage under the bridge was narrow and small, which often caused from two to four or five acres of my land to be flowed with water for several days together, and a part of it the most of the year, so that the grass was very poor, some years hardly worth

mowing and making, and was often injured in curing, by its being so wet, and for one or two years was overflowed when partly dry.

I kept the land in this situation two or three years, and found the income of the low part of it small and uncertain. I then commenced ditching it, and found it a clay and sand bottom, with from ten to fifteen inches of soil. I first made the ditch through my neighbour's land and the passage under the town bridge as much wider and deeper as circumstances would allow, which then let off the water so as to prevent my land being overflowed either in summer or winter. I then began to cart the fine dirt and earth from the ditch on to the centre of the land, to make it the highest; and all the sods and coarse parts that would not spread and harrow fine, I carried to my manure heap.

At this time I selected a spot near this land, and also near my barn, &c. for making compost manure. It was on the south and east side, near the bottom of a hill. I ploughed and dug off the soil &c. and made a basin about twenty feet wide and eighty feet long, and about a foot or eighteen inches deep, as the hard bottom and rocks would allow. I then commenced carting all sods, green weeds, &c. from the ditches, all my barn manure, dirt, old lime, &c. that was about my house and wharf, and also, whatever could be scraped together, with kelp, rockweed and eel grass, &c. that was left by the tide, as time and opportunity admitted, which was all put into my heap and occasionally shovcled together, and generally at the end of the year was shoveled all over and mixed once or twice and sometimes oftener, and thrown into a ridge.

In this manner I have made in the course of a year, from fifty to one hundred loads of good manure, and some years more.

I have generally carted it on as late in the spring as the frost would allow, to get it on before the ground was too soft, but sometimes I have put it on in July, after mowing, when the grass had got considerably started, and I think I have found the most benefit from my manure when put on at this time.

For the first ten years I made a practice of sowing grass seed pretty freely on the manure after it was spread; such as herd's

grass, red and white clover, and I have thought a great part of the seed took root and increased the crop. About four or five years after this I weighed and sold the hay for one year, which amounted to about four tons to an acre. The hay has been weighed about two or three different seasons since, with an interval of two or three years, and I think it has averaged over four tons per acre including the second crop.

For the last fifteen years I have been improving this tract and some other mowing and tillage land, in all about ten acres, about five of which is high, and has been ploughed and cultivated occasionally and manured from the above mentioned heap.

In the spring of 1819, I built a shed adjoining my barn over my dung heap twenty feet wide and forty feet long, (as I could not have a cellar conveniently) and closed it with a fence, to which I have since chiefly transferred my materials for manure.

This shed carries off much of the snow and water from the roof of the barn, and protects the heap from the sun, wind and rain, and leaves it much stronger and better; and I think a cheap shed might be so constructed over every man's barn windows, where they throw out the manure, to keep the droppings of the eaves, sun, wind, &c. from injuring it, and may be so constructed as to be more convenient and less labour in general than a cellar, and a few hogs will help the manure as well as collect from the green weeds, &c. a part of their food.

With respect and esteem,

Your very humble servant,

BENJAMIN T. REED.

Hon. Timothy Pickering,
President of Essex Agricultural Society.

Abstract of the Communication of Asa Andrews, Esq. on Manures.

Mr. Andrews remarks, that the barn yard should be proportioned to the farmer's stock, and *dishing* in its form. He considers one year to be necessary in going through the process for mak-

ing manure. When in autumn the yard is emptied of manure, he would fill (bed) it with the vegetable matter or substance of salt marsh, or fresh meadows, or the earth from low places (such as are found on many farms,) or head-lands, and scrapings of ditches; and over this bed lay straw, ordinary hay, bottom stalks of corn, thatch and weeds—any or all of them, as they can be obtained. And from the time the stock are put to hay, until they are turned out to pasture in the spring, they should not go beyond the limits of the barn yard; within which they should be supplied with water. [Then their dung and urine will not be wasted in the roads, or uselessly scattered over the fields, while they are picking up a pittance of miserable, sapless fog, or dead grass.] The cattle are to be kept in the barn yard at night, during the summer, or season of pasturing.

When in autumn, manure is carted to the fields, and dropped in heaps, to lie until the ensuing spring, those heaps should be covered with earth, to prevent loss by washing rains and evaporation.

In applying his manure, in the spring, Mr. Andrews mixes the old with the new, for grass-land broken up for planting: but if the land is already in a state of tillage, he spreads the new manure (winter dung) and immediately ploughs it in; and puts the old manure in the hills.

Having on his farm a quantity of wet meadow land, producing only coarse grass, he ditched and drained it; and then, without ploughing, spread his compost manure upon it, and sowed herd's grass seed. Under this management, he was able to cut from two to three tons of good hay to the acre. He gives this land a top-dressing of compost manure every other year. The soil of this meadow is rich earth lying on a clay bottom. Mr. Reed's productive meadow has a like soil. ten to fifteen inches deep, lying on a close bottom of clay mingled with sand.

When Mr. Andrews ploughs his grass up-land, he puts on eighteen or twenty loads of manure to an acre: and harvests from each acre about sixty bushels of corn, and vegetables in proportion.

From twenty head of cattle, two horses, and his swine, with the materials collected and used in the process, as above de-

scribed, he makes annually from 220 to 250 loads of manure, each load containing about forty-five bushels.

THE DAIRY.

To the Trustees of the Essex Agricultural Society.

GENTLEMEN,

The committee appointed to consider the claims for the premiums on Butter,

REPORT,

That Mr. Joshua Lovett made upon his farm, in Beverly, from the milk of five cows, four hundred and four pounds of good butter, in the year A. D. 1820, between the 20th day of May and the last day of October.

The cows were kept in a common pasture from the 20th of May until the 1st of October, and afterwards in fall feed, and were fed with the thinnings of half an acre of carrots, and the green topstalks of an acre of corn.

The quantity of butter produced from these cows, between the 1st day of May and the last day of November, in the same year, was five hundred and two pounds; and there was made within that time, from the milk of the same cows, seven hundred and fifty pounds of cheese.

This is the only claim which has been made for a premium on butter. Your committee are of opinion that Mr. Lovett is fairly entitled to the first premium on the article, inasmuch as the object of this society is to encourage judicious efforts in agricultural improvements.

THOMAS STEPHENS,
Chairman.

Salem, January 10, 1821.

ON THE PLOUGHING MATCH.

Report of the Committee on the Ploughing Match at Topsfield, October 5, 1820.

Salem, January 6, 1821.

SIR,

The committee agreed to award the first premium to the Hon. Timothy Pickering, on account of the superior performance and superior utility of his plough.* They think also that great credit is due to Gorham Parsons, Esq. for the performance by his plough from his Byfield Farm, and award to him the second premium.

In behalf of the Committee,

PAUL UPTON.

To Frederick Howes, Esq. Secretary of the Essex Agricultural Society.

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* This plough was made by Henry Burden, at Utica, in the State of New-York.

PREMIUMS,

OFFERED BY THE

ESSEX AGRICULTURAL SOCIETY,

FOR 1821.

The Trustees of the Essex Agricultural Society, to encourage improvements in the husbandry of the county, offer the following

PREMIUMS.

AGRICULTURAL EXPERIMENTS.

I. *MANAGEMENT OF A FARM.*

For the best management of a farm, in its tillage, mowing and pasturage: the quantity of land appropriated to each—the manner of making, increasing, preserving and applying manure—the respective crops and products—and the management of the live stock—to be detailed: . . Thirty Dollars.

For the second best, . . Twenty Dollars.

II. *GREEN CROPS FOR COWS.*

For the best experiment with any kinds of green crops, (turnips and cabbages excepted, which hurt the flavour of milk) by which the same cows, not fewer than four, shall be kept in milk, with the least diminution of the quantity yielded while feeding in their common pastures at midsummer, until the first of October; the cows to be full fed with such green crops, in addition to their common pasturage: Thirty Dollars.

For the second best, . . . Twenty Dollars.

☞ To render this experiment satisfactory, the milk yielded at midsummer (June 21st) must be weighed; and afterwards

once in every two weeks, until the first of October, and regularly set down. Each green crop used, and its effect on the quantity of milk, (and on its quality too, if there be any manifest difference) is to be specified.

III. *INDIAN CORN AND OTHER CROPS.*

For the greatest crop of Indian corn on one acre—
For the greatest crop of potatoes on one acre—
For the greatest crop of carrots on half an acre—
For the greatest crop of mangel wurtzel on half an acre—
For the greatest crop of ruta baga on half an acre—
which shall severally be raised with the least expense of labour and manure—for each, . . . Fifteen Dollars.

For the second greatest crop of each, and for each, Ten Dollars.

For the most valuable crop, according to the labour and manure bestowed upon it, which shall be raised on one acre, which crop shall consist of Indian corn, and potatoes, and bush beans, or any two of them, to make a mixed crop, in alternate rows or hills, and which shall be of value at least equal to the best crop of Indian corn, for which the first premium shall be awarded, ... Fifteen Dollars.

For the second most valuable mixed crop, and which shall be of value at least equal to the second best crop of Indian corn, for which the second premium shall be awarded, Ten Dollars.

For the best crop of barley on one acre, Ten Dollars.

For the second best, . . . Eight Dollars.

IV. *SUMAC.*

To the person who shall prove most satisfactorily, from experiment, on not less than half an acre, that either species of sumac, (rhus) an article extensively used by the manufacturers of morocco leather, can be profitably cultivated in this county, the proof to be given in the autumn of 1823, Thirty Dollars.

V. *THE DAIRY.*

For the greatest quantity of good butter, in proportion to the number of cows producing it, (not fewer than four) made on any farm, from the 20th of May to the 6th day of October,
Fifteen Dollars.

For the second greatest quantity, . Ten Dollars.

VI. *CIDER.*

For the best cider, the pure juice of the apple, which shall be made in the present year, not less than four barrels, a sample of it not less than ten gallons, to be produced at the Cattle Show in 1822, ... Ten Dollars.

For the second best, ... Five Dollars.

The cider to be kept in casks.

LIVE STOCK.

For the best pair of working oxen, not less than five years old, which shall be best trained for labour, be quickest in step, and in full working plight, . . . Fifteen Dollars.

For the second best, . . . Ten Dollars.

For the best pair of fat oxen, which shall be fattened at the least expense, ... Twenty Dollars.

For the second best, . . Ten Dollars.

For the best bull, not less than one year old, raised in or brought into the county, and there kept four months prior to the first of October, 1820, on satisfactory assurance that he shall be kept for use in the county twelve months after that day,
Fifteen Dollars.

For the second best, ... Ten Dollars.

For the third best, ... Five Dollars.

For the best milch cow, . . Fifteen Dollars.

For the second best, . . . Ten Dollars.

For the third best, ... Five Dollars.

For the best boar, not exceeding two years, and not less than five months old, ... Eight Dollars.
For the second best, . . . Five Dollars.
For the best breeding sow, . . Eight Dollars.
For the second best, . . . Five Dollars.
For the best litter of weaned pigs, not fewer than four, nor less than two months old, . . . Six Dollars.
For the second best, . . . Four Dollars.

FOREST TREES.

For the best plantation of white oak trees, not less than one acre, nor fewer than one thousand trees per acre, to be raised from the acorn, and which trees shall be in the best thriving state on the first of September, 1823, Thirty Dollars.
For the second best, . . . Twenty Dollars.
For the third best, ... Fifteen Dollars.

For the best plantations of locust trees, and of larch trees, each of not less than one acre, nor fewer than one thousand trees per acre, to be raised from the seeds, and which trees shall be in the best thriving state on the first of September, 1823, for each and either, . . . Twenty Dollars.
For the second best, . . . Fifteen Dollars.
For the third best, . . . Ten Dollars.

For the best plantations of white ash trees and of hickory trees (the latter generally called, in Massachusetts, *walnut*) each of not less than half an acre, nor fewer than five hundred trees per half acre, to be raised from the nuts and seeds, and which shall be in the best thriving state on the first of September, 1823,—for each and either, . . Fifteen Dollars.
For the second best, ... Ten Dollars.
For the third best, ... Eight Dollars.

The larch tree is a native of Massachusetts and Maine, and doubtless of New-Hampshire and Vermont. It is generally known by the name of *hackmatack*—perhaps the Indian name. It is growing in various parts of this county, commonly in low and moist grounds. The European larch is plainly different in form, and more beautiful; its leaves are of a deeper green, and

its cones three or four times as large. The wood of both is extremely durable. The value of our larch from Maine is already well known to some of our ship-builders.

To entitle a claimant to any premium under the head of Agricultural Experiments, the following particulars must be described in writing, with a declaration by the claimant of their truth: viz.

1. The quality and state of the land in 1820.
2. The product and general state of cultivation, and the quantity and kinds of manure applied to it in that year.
3. The quantity and kinds of manure which shall be applied to it in 1821.
4. The quantity of seed used, and of potatoes the sort.
5. The times and manner of sowing and planting, weeding, tilling and harvesting the crop, and the quantity of labour employed in its production.
6. The amount of the crop, to be ascertained by measuring or weighing.

The object of this institution being to promote valuable improvements in husbandry, it will be the duty of the Trustees to withhold premiums in cases falling short of that object. At the same time they will be disposed to encourage every judicious effort to make improvements, although not crowned with success; as such efforts may open the way to those which shall be really valuable.

EXPLANATORY OBSERVATIONS.

The Trustees have thought it expedient to subjoin to the list of premiums the following explanatory observations.

In considering how best to apply the funds of the society, they were naturally led to inquire, in what objects of husbandry are improvements most wanted, to enlarge our products, either by superior modes of management and culture, or by the intro-

duction of better domestic animals, and of plants either not at all or not generally cultivated?

In old farms, such as all are in Essex, whose native fertility has long since been exhausted, MANURE must constitute the *essential means* of restoring and increasing their productive powers. Consequently, to increase the quantity and better the quality of all kinds of manure, within the reach of our farmers, merits the first attention, as the basis of all improvements. There are some substances not comprehended in the term *manure*, in the common sense of that word, which nevertheless, when mixed with the soil, cause it to yield greater crops; such are clay, lime and other calcarious matters, and plaister of Paris.

But however abundant may be manures, their most effectual operation depends on the manner of using them, and on the condition and management of the land to which they are applied.

The design of our institution being *universal improvements* in the husbandry of the county, the Trustees are of opinion that the excitement of premiums should be addressed, as far as practicable, to the industrious and enterprising occupants of small as well as of large farms; and be extended, in the progress of improvement, to every article demanding the increased attention of the husbandman.

Our common permanent pastures do not yield a sufficient bite of grass for cattle earlier than the 20th of May; and by the middle of August—sooner, if the season be dry—they fail to such a degree, that cows rapidly fall off in their milk, unless the deficiency be supplied by other kinds of green food. What these are, within the power of every industrious farmer to provide, it is hoped will be satisfactorily shown, by the claimants for the premiums offered on this point.

The products of butter will be decisive of two important points—the *goodness* of the *cows*—and the *sufficiency* of their *food;* and will encourage farmers to improve their breeds of milch cows, by purchase or by raising them, and to provide ample supplies of proper food.

By an act of the legislature, passed on the 20th of February, 1818, "for the encouragement of agriculture and manufactures," it is made the "duty of every incorporated agricultural society, to offer, annually, such premiums and encouragement, for the raising and preserving oaks and other forest trees, in such manner, and on such terms, as to their discretion shall seem best adapted to increase and perpetuate an adequate supply of ship timber, within this Commonwealth."

In compliance with this requisition, the premiums for raising oaks and other forest trees are offered. Small plantations only are proposed, because the subject, in America, is perfectly new; although in Europe the practice of *planting* (the term appropriated in England to the raising of forest trees) has long been familiar. There the seeds are sown in beds, (like seeds in gardens) thence removed to nurseries, and from the nurseries to the grounds where they are to rise into trees. The emolument to be derived from *planting*, for the production of *timber*, is at such a distance, probably beyond the life of the planter, as to deter most men from making the attempt: for few, very few, are actuated by the generous principle, that "It will do somebody good." Yet, as men generally wish to acquire and leave property for their offspring, it may be questioned whether in any district, so bare of timber as Essex, farmers could better consult the permanent interests of their children, than by *planting*. Grounds so rough and rocky as to be unfit for tillage can in no way be so profitably improved. Nor, indeed, is some profit from planting very remote. That forest trees may rise straight, and to heights proper for timber, they must be set, at first, many times as thick as will finally fit them for timber. Hence their thinnings will, in a few years, furnish useful wood; white oaks, hickories, ash, and perhaps the larch, for hoops, and all of them, at larger growths, for fuel.

These hints are thrown out to excite reflection on this very important subject; and to induce at least the ablest farmers to commence the work of *planting*. The Trustees hope there will be many competitors for the offered premiums. Any who shall propose to make plantations, will, on their application, be

furnished by the Trustees with the best information they can obtain on the subject; unless a publication (which they contemplate) should supersede the necessity of individual applications.

In proposing premiums for products obtained with the least expense of labour and manure, the Trustees have in view an improved culture of our farms, by the exertion of superior skill and industry, and better tillage to supply the place of more ample manuring. To effect this better tillage, the plants cultivated must be set at distances which shall admit the free use of the plough.

The fattening of oxen at the *least expense* will of course include the *shortest time:* for it is well known that all domestic animals lay on fat in proportion to the quantity and quality of the food they are disposed, or can be induced, to eat, *when fed to the full.* Hence so to feed them is the truest economy, when fatting them is the object.

A premium is offered for mixed crops of corn, potatoes and beans, on the supposition that the crop of corn may not thereby be greatly diminished in quantity, or not in proportion to the value of the potatoes and beans, or of one of them. The corn plants standing far apart will not injuriously shade the potatoes and beans; while the vines of these will cover the intervals of the corn from the scorching rays of the sun. And a *covering* crop is deemed less hurtful than any other—some have even been thought to be beneficial. Dr. Eliot, of Connecticut, in his fifth Essay on Field Husbandry, published so long ago as the year 1754, thus writes—"Peas are found to make land mellow, to enrich and so well to prepare it for wheat, that I have many times known farmers to invite others who had peas to sow their land, without paying any rent, merely for the advantage it would be to their crop of wheat." The Doctor assigns the following reason. "Peas make a shade; where the land is shaded, the air will be condensed; and, consequently, make room for the rushing in of more air, so that in this shade there will be a greater lodgement of nitrous salts, [or whatever in the air, which is a compound substance, tends to fertilize the earth] and consequently the land will be made rich." "The air"

(says another writer) is the chief instrument which nature makes use of to enrich the earth."

A premium is offered for the best cider, in the hope that many farmers may be induced to make that a pleasant liquor which is commonly harsh and sour. Some few make cider which is smooth and comparatively sweet to the taste. With equal care, all may do the same. Such cider would not only be more pleasant, but doubtless more wholesome, and it would lessen the consumption, and ought eventually to supersede the use, of spirituous liquors. Cider is generally made without separating the ripe from the unripe, and the rotten apples from the sound ones; and no measure is used to check its violent fermentation. Hence the meagre and austere cider almost universal in New-England. Were grapes, now producing the finest wines, managed as we do our apples, their juice would yield liquors as little esteemed as our cider. The following intimations for making good cider may be useful.

1. Let the apples hang on the trees until fully ripe. Such as are then *mellow* should be at once committed to the mill and press. Such as are *hard* should be laid in heaps not more than ten or twelve inches thick,* until they become *mellow*. For apples never attain their highest flavour until mellow.

2. Separate the rotten from the sound apples; for the latter only can produce good cider. Suppose all the rotten apples were to be selected, ground and pressed by themselves, the juice would be alike unwholesome and disgusting, and be thrown away. Now, in proportion as rotten apples are ground up with the sound ones, will the cider be injured.

3. Not a drop of water should be put to the cider, not even to wet the straw used in making up the cheese. For it will require the whole strength of the pure juice to preserve it in casks through our hot summers, in the coolest cellars. The straw should be perfectly clean and sweet.

* Many of the most experienced cider makers in New-England house their apples before grinding by laying them on the floor of the cider house, or on the barn floor, taking care to move them often, to prevent their heating.

4. Of the great variety of apples in most orchards, those should be put together in the same heaps which appear alike mellow, or likely to become mellow, at the same time.

5. Every farmer knows, that if his casks are musty, or have a sour smell, they will impart an ill flavour to the cider put into them. Such casks should be cleansed with boiling water. Perhaps few have adverted to the propriety of thoroughly cleansing the cider mills, vats, tubs, and other utensils; but neat and finely flavoured cider is not to be expected without that precaution.

6. The most difficult part of the process in making cider, is, so to regulate the fermentation as to preserve a sufficient degree of sweetness. If suffered to take its own course, the fermentation will continue long, and the cider be changed into a harsh, sour and pale coloured liquor. To prevent this, the cider must be drawn off: and the time of doing it is, when the lighter parts of the pomace have risen to the top, forming a brown coat or scum on its surface, and when the heavier parts have sunk to the bottom. This state of the cider would be clearly manifested, if a quantity were fermented in an open vessel. In four or five, or more days, according to the warmth or coolness of the air, such a separation of the parts of the pomace would appear. Just when that brown coat cracks and begins to show a white froth, is the time for drawing off the cider, taking care that no portion of the scum or lees run out and mix with it. After this, some fermentation may again take place, and require a second, and perhaps a third racking. If the cider be fermented in casks, these should want a gallon or two of being full. There will be no harm done by exposing so much surface to the air, for it will be soon covered with the brown pomace; and then too the precise time for racking will be seen.

After apples are ground, the pomace should remain exposed to the air, in open vats or tubs, about twenty-four hours, before it is made into the cheese to be pressed. This is known to give not only a better colour, but to add to the sweetness of the cider.

An eminent naturalist and practical farmer, in the greatest cider county in England, states, that when the rind and pulp of

apples are green, the cider will always be thin, weak and colourless; and when these are deeply tinged with yellow, it will always possess colour, with either strength or richness. And again, that such apples as are yellow, or yellow intermixed with red, are alone capable of making fine cider.

TIMOTHY PICKERING, *President.*

F. HOWES, *Secretary.*

January 10, 1821.

ARRANGEMENTS

FOR THE

CATTLE SHOW AND PLOUGHING MATCH,

FOR THE

COUNTY OF ESSEX.....IN THE YEAR 1821.

1. It is expected that the society, at their annual meeting at Ipswich, on the nineteenth day of February next, will determine at what place the cattle and other live stock, to be presented for premiums, and the ploughing match, shall be exhibited.

2. The Trustees will timely appoint the necessary committees to examine and report on the claims for premiums, and assemble with them at the place of exhibition, on Thursday, the eleventh day of October next, at nine o'clock in the morning; at which time, all claims for premiums must be presented and entered. The committees will then inspect all the live stock, and any other articles which may be subjects of premiums, and prepare their reports thereon.

3. On the next day, at ten o'clock in the morning, the trial of working oxen will be made; and be followed, at eleven o'clock, by the ploughing match. At twelve o'clock, an address, on the important subjects of our institution, will be delivered, by a member of the society.

4. At one o'clock, the members of the society will dine together; and at two o'clock, the reports of the various committees will be read; and the premiums awarded be immediately paid to the successful candidates.

5. The live stock and any other articles which may be exhibited for premiums, on Thursday, must remain until the next day at noon, to be viewed by the members of the society.

6. Decisions on claims for premiums on Indian corn and root crops must necessarily be postponed, because these may not be generally harvested by the time of the cattle show. But all such claims must be sent to the secretary of the society, by the twentieth day of November next, sealed up. On that day the papers will be delivered to the committee appointed to examine and report on such claims; and after that day no claims will be admitted. The premiums awarded will be immediately paid by the treasurer.

INTIMATIONS

ON THE

RAISING OF FOREST TREES.

In a preceding page, the common English practice is mentioned of sowing the seeds in beds, removing the seeding plants to nurseries, and thence to the ground where they are to receive their full growth. But some English writers contend, that Oaks in particular attain the quickest and best growths, when they spring from the sown acorns, and are never transplanted: because then the young trees receive no check from the shortening of the tap root, or the loss of the fibrous roots proceeding from it. Where the land to be planted admits of culture with the plough, this doubtless is the most eligible mode. But the young oaks will not generally rise more than five or six inches the first year, although the tap root may descend to the depth of from one to two feet. The second year's growth will also be small; after which, the removal of the plants

to the nursery should not be delayed. But this removal may be dispensed with, by cutting off the tap roots with a long spade ground to a sharp edge, and thrust, in a sloping direction, under the plants in the rows, as deep as possible, so as to preserve eight or ten inches of the tap root. This is sometimes practised in England; and, it is presumed, will not materially check the growth of the trees. For this operation, it is obvious that the seed-beds must be a fine loam, free from stones or gravel.

In whatever way the plantation shall be made, the ground in which the acorns are sown should be in a state of perfect tillage, and well cleaned by some tillage crop or crops, admitting the plough and hoe, and where no weeds have been suffered to ripen their seeds; which will save much labour in the cultivation of the young plants, especially in the first and second years. The deeper the ground is ploughed or dug for receiving the seed, whether in the nursery beds or in the field, the better the trees will thrive; especially by being more secure from the effects of drought. The acorns should be collected from the most thrifty trees, sown in drills, or channels, about two inches deep, and covered, with some pressure of the earth upon them. If dropped in a seed bed, the acorns should be distant not more than an inch and a half, or two inches, in the drill. But if planted in the field where it is intended the trees should grow without any removal, it may be an eligible way (after the ground has been brought into a fine tilth, and harrowed smooth) to mark it out by cross furrows, distant four feet from each other, and to plant four or five, or more, acorns at the intersections of the furrows. The plantation may then be cultivated with as much ease as a field of Indian corn. And such cultivation is essential, for preserving the oaklings from being smothered by weeds, and for encouraging their growth. Every farmer knows the effect of tillage on young apple orchards. Nuts for a plantation of Hickory (walnut) may be planted in the same manner as acorns: and both must be collected in autumn, and then planted, or preserved in dry sand until the succeeding spring. After two years growth, all but one, and that the best, of the young trees should be removed from each spot.

The seeds of the locust tree must be gathered in autumn, and preserved till the ensuing spring, and sown at the time of planting early beans. Every locust seed is a small bean, and if sown on *fresh*, *moist* earth, will vegetate as surely as a bean, and grow, in a tolerable soil, from two to four feet high the first year. Doubtless it will be best to sow these, at once, in the field where they are finally to grow, as above suggested for acorns: pulling up, at the end of one year, all but one, the most thrifty, in each spot. The supernumeraries, thus extracted, may be set out to form an additional plantation.

Larch seeds are found under the shells or scales of the cones. These must be gathered early in March: for if suffered to remain longer on the trees, and warm and dry weather succeed, the scales will rise, and the seeds fall out. If beds be prepared for larch seeds, and the cones spread over them, (the cones may touch one another) the scales will rise, and upon removing the cones with a fine toothed rake, the seeds will fall out. These may then be covered with fine earth, from a quarter to half an inch deep. As the larch trees, growing in this country, are found in low and moist grounds, it is probable that the seeds will vegetate with more certainty in beds prepared of such a soil. After the cones have been raked and picked off of the first bed, they may be spread over a second, and furnish an adequate supply of seed. By moving a few in the first bed, it will be seen whether a sufficiency of seeds have dropped out. A week, ten days, or two weeks, according to the weather, may be required for the discharge of the seeds, on each bed.

Trees growing four feet apart every way, will give 2722 to an acre: and if so great a number grow at that distance, they will rise with straighter, cleaner stems. Their thinnings from time to time will turn to good account.

AN

ADDRESS,

TO THE

ESSEX AGRICULTURAL SOCIETY,

AT THEIR

FIRST CATTLE SHOW,

AT

TOPSFIELD,

OCT. 5, 1820.

BY ANDREW NICHOLS, ESQ.

"————————————Venerate the plough,
"And o'er your hills, and long with drawing vales,
"Let Autumn spread his treasures to the sun,
"Luxuriant and unbounded." THOMSON.

SALEM:
PRINTED BY JOHN D. CUSHING.
1821.

ADDRESS.

Agriculture, the most ancient, the most necessary of Arts, has engaged the attention of the strongest and most enlightened minds, and employed the pen of the ablest of writers; and still the subject has never been, can never be, exhausted. The interests of Agriculturalists are inseparable from the permanent prosperity of every nation, and closely connected with the welfare of every individual of the human race. On Agriculture all are directly or indirectly dependent for the means of subsistence, and towards its improvement all should be willing to contribute. This consideration alone has induced me to appear before you. Yet it is with no small degree of diffidence, that I presume to address this numerous and highly respectable audience, composed as it is of many, whose scientific and literary acquirements are far superior to my own, and of a more numerous collection of *real farmers*, who I well know place but little confidence in the essays of professional men, on a subject with which they may be supposed to have little, if any, practical acquaintance. I was however bred a farmer, and have been personally acquainted with the toils, pleasures, hopes and disappointments, of an agricultural life. I feel a strong attachment to the occupation of my ancestors, who from the first settlement of this country have tilled with their own hands the soil of Essex. A regular course of medical studies embraces much that tends to explain the principles of fertility in soils, the phenomena of vegetation, the philosophy of Agriculture. Influenced by these considerations, and confiding in your candour to excuse unintentional errors, I shall without further apology offer such remarks as seem to me worthy your attention on this occasion.

Industry is a most ennobling trait in the character of any class of men. In the pursuit of agriculture it is absolutely necessary

to success. But industry is not the only virtue, that the cultivation of earth promotes. Piety, sobriety of conduct, simplicity of manners, hospitality, friendship, and conjugal love, are more frequently found in all their purity among practical farmers than among other orders of men. For this there are natural causes. The husbandman's employment in the open field, where all is sublime, beautiful and harmonious around him, exercises both the body and mind in a manner most conducive to health and happiness. While sowing his grain, and nurturing his tender plants, he must be stupid indeed not to feel his dependence on the beneficent Parent of Nature, for the warming sun and refreshing showers, without which not a blade of grass can be made to vegetate, or an ear of corn be brought to maturity. "He is independent of popular favour, and exempt from those corroding cares, those mortifications, disappointments, jealousies and responsibilities, which plant thorns in the pillow of the professional man. The sources of ill will and secret envy among other professions, where one man's loss is another's gain, have no existence among men employed in Agriculture." Free from the anxiety attendant on the risks inseparable from mercantile engagements, he unites his fortunes with her's on whom were placed his earliest, his tenderest, affections; and sees, without regret, an increasing family, looking to him for bread, instruction, and protection.

An Agricultural life is the natural condition of man. He was placed in the garden of Eden *to dress* and to *keep it*. When driven from paradise, he was commanded *to till the ground from which he was taken*. And wherever the great body of the people have yielded a willing obedience to this command, and not sought to supply their wants by other inventions, the earth has ever yielded them the necessaries of life in abundance. It is astonishing to reflect on the immense population which a small territory well cultivated will sustain. "Egypt once contained forty millions of inhabitants, and was then able to supply surrounding nations with corn. A few years since, when the same territory contained only three millions, a French army of twenty-five thousand men found it difficult there to subsist. Sicily, when it contained in the small territory of Syracuse alone four

times the amount of the present population of the whole island, was deemed an inexhaustible store-house of corn for others." These examples show, that the earth is productive in proportion to the labour judiciously bestowed upon it. They are cited from times when that more productive vegetable, the potato, which now furnishes almost the whole food of thousands of families in Great-Britain, was unknown. Is it therefore too much to suppose, that when properly managed "every rood of ground *will maintain* its man"?

If the soil can be rendered so productive, it must be obvious, that the agriculture of this county is susceptible of great improvement.

What are the causes that have hitherto retarded this improvement? Among these, are, I conceive, the prejudices that exist among different classes of men engaged in agriculture. Speculative and practical farmers have ever been at variance. By speculative farmers I mean those who have engaged in husbandry, either for amusement or from patriotic motives, without depending on it for the means of subsistence. The former are generally too fond of pursuing visionary schemes, and the latter frequently too much wedded to old practices to adopt the most obvious improvements. The speculative is apt to consider the mere practical farmer as a narrow-minded, obstinate, perverse man, who is determined to plod on in the path his forefathers had trodden; and the practical farmer in his turn laughs at the other as a visionary, who, mistaking dreams for realities, pursues plans that lead to disappointment and ruin.

These prejudices are generally carried too far, and are much to be regretted, although there is frequently some foundation for them on both sides. They too often prevent that social and free intercourse which would prove highly advantageous to both. The practical farmer, who has had but little opportunity to become acquainted with knowledge derived from books, or with practices, that have been found most successful in other places, would derive many useful hints from the speculative farmer, who might often be saved much useless expense by the experience and observation of the other. In this society both these classes of agriculturalists are uniting their efforts. May we not

confidently hope that the result will be the extinction of these prejudices, and the rapid diffusion of useful knowledge, among all classes of agriculturalists?

Another cause, which has hitherto retarded improvements in agriculture, is the low estimation in which the employment has been held. "In the most flourishing and happy era of the Roman Republic, the cultivators of the soil were esteemed a superior class to merchants and manufacturers." This was probably one cause of the great success in agriculture, which at that time enabled "the small vale of Campania alone (not one twentieth of the whole) to furnish subsistence for more people than the whole inhabitants of Italy now amount to." It is not however good policy for any nation to make invidious distinctions among the several classes of her citizens. The honest and industrious professional man, artist, mechanic, merchant, or manufacturer, deserves well of his country.

"Honour and shame from no condition rise,
"Act well your part, there all the honour lies."

But if it be a fact that husbandry has been, in this country, by many, considered a mean or servile employment, it becomes the duty of every good citizen to endeavour to raise its reputation to the rank it ought to hold, a rank inferior to none in society. Nothing would have a more direct tendency to improve agriculture, and raise its reputation, than a more general attention among farmers to those sciences, that explain many of its principles and operations. "Knowledge is power." The man, who understands philosophically the operations in which he is employed, will perform them with much greater ease, than one who has only a mechanical acquaintance with them. It is granted that practice alone is much better than theory without practice, but it is the union of both in the same individual that constitutes the most accomplished and successful operator.

The opinion has been too prevalent among farmers, that the only learning beneficial to those, who are to get their living by cultivating the soil, is to be able to read well, write well, and answer with facility questions in the most useful rules in arithmetic. It is acknowledged, that with these acquisitions only

there are many who have distinguished themselves both as agriculturalists and citizens But it does not follow that the same men would not have made greater improvements in husbandry, and extended their usefulness as citizens, if they had also studied more thoroughly the English language, the mathematical sciences, geography, astronomy, chemistry, natural philosophy, and the several branches of natural history. These and many other branches of science and literature enlarge the views, strengthen the mind, and greatly multiply objects which afford pleasing reflections. They are therefore peculiarly calculated to beguile the cares, and increase the happiness, of labouring men. The mind of the naturalist, while at work in the field, is continually feasted by the operations of nature going on around him. In every cloud that passes over his head, in every fossil turned up by his plough, in every insect that crawls the earth, in every plant that vegetates or blossoms, he reads a story containing truths the most interesting, beauties that never cease to please, and sublimity that fills the mind with admiration. The mathematical sciences, natural philosophy, and chemistry, may be so applied to the art of husbandry, as to render its principles less mysterious, its operations more easy, and success more certain.

It will perhaps be objected, that such studies tend to destroy that relish for manual labour, which is essentially necessary to success in agriculture, for

> "He, who by the plough would thrive,
> "Himself must either hold or drive."

If this be the case, it is owing not to the knowledge acquired, but to ambitious and erroneous notions at the same time imbibed. These notions are derived either from the injudicious complaints, so frequently uttered by farmers themselves, in presence of their children, of the hardships of their lot when contrasted with the supposed ease and rapid acquisition of riches and honours by professional and mercantile men, or from the conversation and enthusiastic expectations of those devoted to such pursuits with whom they associate at academies and other literary institutions. If, instead of such erroneous notions,

youth were more generally taught, that the cultivation of the earth is a noble employment—that the farmer's loose home-made working dress, it being particularly appropriate to his employment, is as respectable as the more costly apparel worn by those engaged in less laborious employments, and much more so than the fantastic trappings of modern dandies, whether they are seen spending their time in most fatiguing idleness, employed behind the counter, or crowding the avenues that lead to either of the learned professions; if proper pains were taken to convince them, that, although in agricultural pursuits they cannot calculate on becoming rich, industry and frugality will ensure them competence; while, of those who devote themselves to professional or mercantile employments, some may, by industry, the possession of talents peculiarly fitted for the purpose, or good fortune, become honourably and honestly wealthy; but many will either be reduced to want, or owe their prosperity to means at which the honest farmer would revolt, the arts of *quackery*, *chicanery*, or *swindling!* Then we should oftener see the scholar return to the plough, apply his science to the improvement of his favourite art, raise the reputation of agriculture, preserve the purity of his morals, and become in fine a man to whom in times of danger or distress the public might look for counsel and assistance, as to a patriot of sound judgment, without partiality, without fear, and without reproach It is not the labours and privations of an agricultural life, that deter literary and scientific men from engaging in it; but the belief, that it would be voluntarily sacrificing all claims to distinction, and burying their talents in the shades of obscurity. For such men readily engage in military services, a seafaring life, or the most fatiguing travels, with the utmost ardour, patience, and perseverance.

The present enlightened governor of the state of New-York has hinted, in an address on this subject, the establishment of agricultural schools for the purpose of improving the art of husbandry. And, is it altogether visionary to suppose, that the best interests of this county would be promoted by the establishment of an agricultural academy, where such studies, as are best calculated to make accomplished and scientific farmers

might be advantageously pursued, and the students required by turns to labour one or two days or half days every week, with an experienced husbandman and gardener, who should be selected to manage a farm connected with the institution. Such a seminary, well endowed and properly managed, would furnish more useful instructers for town schools in agricultural districts than can now be obtained. It would answer all the purposes of a pattern-farm, rapidly disseminate knowledge of the greatest improvements in the art, and produce the most accomplished farmers and useful citizens.

Another cause of the slow progress that has been made in the art of husbandry is the small profit which farmers generally realize from their labours. This has hitherto induced many of our most enterprising citizens to seek more lucrative business, and tended to discourage those who have continued to cultivate the soil. To render agriculture, therefore, more profitable, as well as more honourable, is a primary object with agricultural societies. How can this be accomplished? By practising, among other things, on the following fundamental principles of husbandry.

1. Cultivate no more land than can be thoroughly ploughed, well manured at once, and kept free from weeds.

2. Never keep land many years under the same crops.

3. Never lay land into grass, except it be well prepared, and in a very rich condition.

Suppose for example you possess a field of arable land, containing eight acres; how can it be most advantageously managed? According to the author who lays down the foregoing rules, plough up annually, in autumn, two acres. Let it be cross ploughed, harrowed, highly manured, planted with corn or potatoes, and well tended the following spring and summer. In the spring next following, plough it twice, and sow it with grain and clover. In this way, by keeping the land in rotation, one year under Indian corn or potatoes, one year under English grain, and two years under clover, it would produce the most abundant crops, and be continually growing better, as the large tap roots of the clover especially would greatly ameliorate and enrich the soil. After going through this routine several times,

the land would be in an excellent condition to lay into grass, thus to remain till another portion of land could be treated in the same manner. Keeping in view these principles, every farmer can readily apply them to other crops, which it is therefore unnecessary to mention.

On mature reflection, I presume it must be generally admitted that one of the greatest and most frequent errors in the management of farms in Essex, is dissipating both labour and manure, by attempting to cultivate too much ground.

By improved management, the same quantity of produce as is now obtained might be raised, with the same manure, on half the land, with two thirds the labour. One half of the land and one third of the labour might therefore be devoted to other crops, the whole of which would be clear gain.

There is a specious objection to improvements in agriculture, often suggested by practical farmers, namely, "that in the same ratio that crops are increased, their value is diminished, for the market is already abundantly supplied." Admitting this to be the case, are there no other fruits, esculent vegetables, and raw materials for exportation or domestic manufacture, other than those which are now generally cultivated, which our soil and climate will produce, and towards which the attention of farmers may be profitably directed?

In taking a survey of the county of Essex, it must I think be admitted, that we are deplorably deficient in gardening, and in the cultivation of fruits which are justly ranked among the most elegant comforts of life. With very little expense of time and labour, it is in the power of every owner of a farm to surround his habitation with the most delicious fruits, to furnish a rich desert for his table at all seasons of the year, and likewise send large quantities to market. In many places considerable attention has been paid to apple trees, and some flourishing young orchards occasionally greet the eye. But we more frequently see others in a state of rapid decay. How often, even among farmers, are found families destitute of apples fit for the table, or culinary purposes, and which, when assailed by sickness, are obliged to send to some more provident neighbour for a supply! Pear trees are very generally neglected; and the greater part

of good pears sold in our markets are brought from other counties.

Our decaying Fruit Trees demand immediate attention, for they may yet be saved. Forsyth, the distinguished manager of the Kensington gardens, in England, for whose improvements in the art of managing fruit trees the British Government paid him four thousand pounds sterling, was so successful in restoring decayed trees, that he computed "an old tree, cut down and properly medicated, would yield as much fruit the sixth year after that operation, as a young tree planted on the same soil would produce in the twentieth year from the time it was planted. He thought no tree lost beyond the power of recovery whose roots were sound, were it ever so much decayed above ground; provided there was one inch of sound bark upon it, he did not despair of recovering it. He frequently exchanged with those who were desirous of turning out old trees. If they would give him the old tree, he would take it up, and put in its place any young tree they might choose from his nursery: for he had found that, even after being transplanted, such old trees came into bearing much sooner than any young ones that he could procure. By the same rule, this experienced gardener, when he was obliged to go to a nursery, always chose the oldest plants he could find there, were they ever so stubbed or ill looking." By what mighty magic were such wonderful things accomplished? By the application of scientific principles to the improvement of his art. Following the advice of the *vine dreseer* in scripture, it was his practice to *dig round them, and dung them*, and at the season when trees are growing, he cut away all the dead wood, and covered the wounds with a composition that prevented the exudation of sap, and defended them from the air, sun and rains.*

* Forsyth's composition for healing wounds in trees is made as follows:

Take lime that has been long slaked, or chalk, half a bushel; wood ashes, half a bushel; sand, two quarts; pulverize and sift them; add fresh cow-dung, one bushel; and work the whole to a fine mortar; dilute it with urine or soap-suds to the consistence of a paint, and apply it with a painter's brush; sprinkle over it a powder, composed of wood ashes, five parts, and ashes of burnt bones, one part, and press it gently with the hand.

Tar and ochre, or pulverized brick, will answer the same purpose.

In this county, peach, plum and cherry trees are much neglected; notwithstanding the latter, if headed down,* and properly managed, will soon bear abundantly; and the former are more easily cultivated than most fruit trees. The best kinds of cherries, ripening, as they do, at an early season, when there is no other kind of fruit in the market, will always command a good price. Of these, the birds, which cheer you with their melody in the spring, and greatly benefit you by destroying insects during that and the following seasons, will claim a share. Instead of declaring war against such good friends, act a more generous part; plant more trees, and raise fruit enough for them, yourselves and the market. Peach and plum trees are generally short-lived: but this is a circumstance of very little importance, as they can always be replaced if a few stones be planted annually. The better varieties of the plum and peach, which can always be raised as easily as any, are delicious fruit, and may be preserved in sugar: or, by drying, for culinary purposes; or converted into vinous liquors by fermentation.

European walnuts are deserving attention, as are our native shagbarks. The growth of the timber will pay for cultivating, and the fruit will be clear gain. The chesnut is a valuable tree, both for timber and its fruit; it grows rapidly; and a late discovery, that the wood is superior to oak bark for tanning, renders it highly important that it should be cultivated where there are such extensive tanneries as in some parts of Essex.

It has been said of American farmers, that "they plant" and "they neglect" fruit trees. In this county they seldom do the first. Nurseries are almost totally neglected, notwithstanding there ought to be one on every farm, containing at least apple, pear, plum, peach and cherry trees. At present nothing sells more readily, or affords the cultivator a better profit, than young fruit or ornamental trees, at an age suitable for transplanting; but should nurseries ever become so numerous as to do away

* *Heading down.*—This method of pruning, Forsyth says, will cause trees to bear every year, and produce three fourths more fruit than they otherwise would. When the buds begin to swell in the spring, cut the principal shoots down to three or four eyes. In old trees, cut one half of such shoots only, in one year. This prevents the growth of long, naked branches, and fills the head of the tree with bearing wood.

this inducement, young trees would still be worth their cost to plant out as opportunities should occur. A principal reason why good fruit is not more plenty, is, that few farmers think they can spare the money to purchase trees, and to raise them from the seed seems too slow a method. They seem to despair of living long enough to derive any advantage from such labours, and consequently spend a long life, destitute of many riches and comforts which they might have possessed. The best policy for agriculturalists, as well as others, is always to act on benevolent principles. Let us plant these trees, should be their language; they will benefit somebody, if we should not live to enjoy them ourselves. And, on a dying bed, it is what we have done to promote the happiness of others that will afford us the greatest consolation.

Quinces, grapes, gooseberries, currants, &c. might be easily cultivated in such quantities, as to supply our citizens with wines, preserves and sweetmeats, equally palatable, and far less injurious to health, than such as are now at a great expense imported.

In looking over English books on gardening and cookery, who is not surprised that so few of the esculent vegetables, esteemed valuable in Europe, are here cultivated? The difficulty of obtaining seed is probably the chief cause of this neglect. May we not confidently hope, that one of the benefits resulting from the establishment of this society will be the more general distribution of rare and valuable seeds; and that, by exhibiting at our annual shows the productions either of uncommon plants, or of new and better varieties of such as have hitherto been cultivated, the attention of farmers will be attracted to means of rendering the business profitable, with which they would otherwise never have become acquainted? Might not our annual meetings in the month of February be rendered more useful and interesting, if the members generally would make it an object to carry with them for distribution such seeds, roots, and also scions of the best kinds of fruits for grafting?

It would also be good policy, I conceive, for American farmers to endeavour to supply the market with such raw materials,

as our soil and climate will produce in perfection, as are in demand, either for exportation or domestic manufacture. Under this head I shall call your attention a few moments to flax, hemp and wool.

With the cultivation of Flax, almost every farmer is in some measure acquainted. But since cotton goods have become so cheap, it has been generally abandoned as unprofitable. Great improvements in machinery for dressing and spinning it having been recently anounced, it is not improbable that it will again be considered one of the most profitable of crops. Linen must ever be preferred to cotton for many uses, provided it can be afforded nearly as cheap. Expertness in manufacturing flax into useful and ornamental articles of dress was formerly, and I trust will again, be considered one of the most honourable of female accomplishments. It certainly deserves to hold a superior rank to embroidering, tambouring and painting. But to enable our ingenious and industrious ladies to rival foreigners in the manufacture of laces and fine linen, they must be furnished with the raw material in perfection. Our patriotic farmers therefore would do well to acquaint themselves with the most improved methods of cultivating and managing flax.* To the Irish, who have carried the manufacture of linen to so great a degree of perfection, we may confidently look for instruction on this subject. And as knowledge acquired from books, and other sources of like nature, is not alone sufficient to ensure success, let such methods as have been found most successful elsewhere, be subjected to experiments on a small scale here. Nor let failure in the first instance discourage farther efforts. It is the price that must generally be paid for all valuable improvements in any art.

Hemp is another article in great demand; for large quantities of it are imported, which might be cultivated here as successfully as in any country on the globe. Why then should we yield to foreign agriculturalists all the profits of supplying Amer-

* The thread for which Mrs. Crowninshield, of Danvers, received a premium from the Massachusetts society, a few years since, was made of flax sowed thick, so as to prevent it from growing rank, was pulled immediately after the blooms had fallen, and boiled instead of being rotted. Water rotting, however, would answer the same purpose.

ican shipping with the raw material for cordage and canvas? According to the Hon. Justin Ely's statement, hemp in Hampshire county has been found to produce from four to eight hundred weight to the acre, and from six to nine bushels of seed. It is worth, at this time, about nine and a half dollars per hundred, and the seed probably a dollar and fifty cents per bushel. The labour of cultivating, pulling and rotting it, cannot be more than is usually bestowed on an acre of Indian corn. An expert workman can dress 3 cwt. in a week. Should it ever be raised in large quantities, it might undoubtedly be dressed by water, at a much cheaper rate. It must therefore I think prove a profitable crop. Were this not the case, it would notwithstanding be worthy the attention of American farmers, who ought to endeavour to supply the market with every thing which they can cultivate, without involving themselves in debt: for by so doing they will plant the seeds of resources, which some time or other will afford them a rich harvest.

Wool. I have no wish to renew the merino speculations which proved so ruinous to many a few years since. I think however that we have much reason to regret the indiscriminate destruction of fine flocks which followed. For although I do not believe that it will ever be good policy for the farmers of this county to go largely into the raising of wool, a commodity more worthy the attention of those who inhabit the interior and more mountainous parts of our country, still I think that a few sheep may be profitably kept on almost every farm. If a farmer has plenty of wool in his house, his wife, daughters, or female domestics, will generally be disposed to manufacture it, although they would not urge him to go and buy it for this purpose, and would be seldom gratified if he did. Or he might make an exchange with the woollen manufacturer, and thus obtain his clothing easier than he otherwise would, although he might, by paying cash, get cloths at a nominally cheaper rate. What kind of sheep, generally speaking, would it be most profitable to keep for these purposes? Livingston says, half-blooded merinoes; and there is but little reason to doubt his correctness, when we take into consideration the value of the mutton as well as the fleece.

Some excellent observations on the subject of ploughing—the best method of increasing the quantity, and improving the quality, of manures—and the cultivation of root crops, and other green food, for feeding cattle—contained in the addresses of the Hon. President of this Society, render it unnecessary for me to call your attention at this time to these subjects of primary importance to every farmer.

On the subject of Wheat, to what is said in the above mentioned addresses, I will add a few observations. Although the cultivation of this most valuable grain has been generally abandoned on account of the uncertainty of obtaining a crop, it is, I must think, still deserving attention. Is it not surprising that a plant, which comes to perfection both at the north and south of us, cannot be advantageously cultivated here? Is it not evident that the failure must be owing, not to the climate, but to some defect in the preparation, or constituent parts of the soil? If so, these defects can be remedied. Perhaps the following facts, stated by that distinguished scientific English farmer, Dr. James Anderson, will furnish all the hints necessary to ensure success. He states, "that a field of good arable land, a mellow loam, in Aberdeenshire, which had long been under culture, was subjected to a thorough summer fallow, to get rid of the weeds; and a moderate dressing of lime and some dung was given it at the same time. The whole field was sown with wheat at the proper season, which sprung up equally in every part of it. For some time no difference was perceivable in the appearance of crop over the whole. By and by it was observed that the wheat, on a small portion of the field which by accident had not had any lime put upon it, became pale and sickly: while the crop on other parts of the field advanced luxuriantly, it dwindled on this particular patch more and more until about the beginning of May: the whole had then died quite out, and not one stalk of wheat was to be found upon it, though the weeds, in consequence of the richness of the soil, grew there with extreme luxuriance. Perhaps the proportion of lime did not in this case amount to more than one thousandth part of the whole; yet the qualities of the soil were thereby totally altered, insomuch that, though before the application of that dressing the soil was inca-

pable of producing wheat at all, it was found to be at all times after that period well adapted to the rearing of this crop." The effect of wood ashes on soils, though less durable, is similar to that of lime. Will not this account for the luxuriant growth of wheat here formerly, and in those places where the wood has been recently cleared off by burning, at this time?

The greatest improvements in Agriculture in Great Britain, where plaister of Paris, as with us, is found nearly inoperative, have been made during the last forty years by the use of Lime. And there can be but little doubt that much of the soil in this county can be economically improved by the same means. A few directions therefore for using quick lime cannot fail of being interesting: for this can be more easily obtained by the farmers in this county, than any other calcareous earth, except in the neighbourhood of soap manufactories, where leached ashes, which contain much lime, can be had at a cheaper rate. The following directions for using quick lime are extracted from some of the best English writers on this subject:

From thirty to three hundred bushels are usually applied to an acre; but on poor soils, and soils which abound with roots, peat and other insoluble vegetable matter, even six hundred may be used with advantage. Soils thus dressed will be rendered more fertile forever after.

Quick lime should be reduced to powder by slacking it with water, and spread dry, so that it may mix as intimately with the soil as possible, at least one month before the seed is to be sown. In this country, it being necessary to sow grain as early as possible in the spring, the lime should be spread the preceding autumn. And as the feet of cattle are sometimes injured by it, it must be suffered to lie on the surface of the ground till it becomes mild, like chalk, which will take place in a few weeks, before it is either ploughed or harrowed in.

Quick lime applied to plants while growing, and of course to vegetating seeds, invariably injures them. Quick lime injures all animal manures, and therefore should never be mixed with common dung, or applied to the soil at the same time. When applied to low, boggy soils, in sufficient quantities, it will destroy

moss and the meadow grasses, and fit them for producing the most abundant crops of clover, and cultivated grasses.

Irrigation is another means of fertilizing the earth, that has not been duly appreciated in this vicinity. Falls of water have been estimated in England to be worth as much for watering the land, as for mills and factories. It is well known that even the temporary streams formed by the melting snows in the spring, if caused to run a few weeks over dry, gravelly soils, will render them highly productive of grass the whole season. Yet our brooks and rivulets are suffered not only to run to waste, but even to render barren extensive tracts of land in their vicinity. Wherever there is a fall of water running through land suitable for the purpose, let it be divided, and carried as high on each side as it will run freely; throw the intermediate space into ridges about twenty feet wide; along the top of each let a small stream of water be passed occasionally; give the whole a dressing of ashes, or lime; and it will produce the most abundant crops of grass, without any further expense. Admitting therefore that the expense of preparing land in this manner should amount, in the first instance, to an hundred or even to two hundred dollars an acre, it would still prove cheaper than most mowing land, which can be kept productive only by frequent expensive manuring. Such land would contribute the whole of its productions to enrich the other parts of the farm; a consideration of no little importance in estimating its value.

By mixing different earths, soils may be permanently improved. Clayey and sandy lands are frequently found in the immediate vicinity of each other. By dressing the sandy with clay, and the clayey with sand, both, though naturally barren, may be rendered fertile. That similar fertility would follow the mixture of other earths cannot be doubted. Experiments made on chemical principles, will in all human probability develop most valuable resources of this kind, which are at present unknown to agriculturalists.

To the subject of fertilizing and rendering more valuable pasture lands, by covering them with Trees, I cannot too strongly urge your attention. Locust trees grow rapidly, and produce

the most valuable wood and timber. Planted on dry, sandy or gravelly pastures, they greatly fertilize the soil by their abundance of tender leaves, which, falling on the ground, rot in the course of the winter and spring. Cattle are particularly fond of the grass which grows thick and luxuriantly under them, as well as of the young trees which are continually springing up from their roots.

Similar advantages may be derived from planting low, rocky or boggy lands, which are generally covered with alders and other useless bushes, with common willows. These trees not only produce wood, which when dried is better than white pine, faster than most other trees, but greatly meliorate boggy soils, and bring in a better kind of grass, which makes excellent pasturage. Of the correctness of these assertions, every one, who will take the trouble to examine the land under groves of locust and willow trees, must, I think, be fully convinced. They are most certainly not the vain speculations of a theorist. Like many other facts contained in this address, they are derived not from books, but from the observation and experience of my worthy father, who spent an industrious, useful and observing life in the practice of husbandry. Nor are the above mentioned the only advantages derived from covering pasture lands with trees. They serve to shelter the cattle, while feeding, from the exhausting effects of a burning sun. They prevent rapid evaporation, and probably attract showers; consequently increase the size of adjacent streams, and thereby fertilize soils far beyond the reach of their shadows. Besides, whatever grows out of the earth ultimately returns to it again, to afford food for other plants which succeed. Consequently the more any soil can be made to produce, the more that, or some other in the neighbourhood, will be enriched. Do any doubt the correctness of these theories? Why has Palestine, or the holy land, which once flowed with milk and honey, and supported by its own produce, on an extent of territory not exceeding that of Massachusetts, seven millions of people, become so barren as scarcely to be able to preserve a few thousand miserable wretches? Why has the river Jordan, once undoubtedly a noble stream rolling through fertile valleys, been reduced to a small

brook winding its way through a sandy desert? You will perhaps answer, the malediction of the Most High rests upon it. True, but the Almighty effects his purposes through the agency of natural causes. It was overrun by victorious armies, and vegetation was destroyed; exposed to the direct rays of the sun, the soil itself disappeared, the springs were dried up, and fertilizing showers became less and less frequent. The same process is now going on in our naked pastures; many of which, that a few years since were well clothed with grass, now produce little or nothing but moss.

Improving the breeds and condition of Live Stock must also increase the profits of Agriculture. One good cow full fed is worth more for the dairy than four ordinary half-starved ones.* Would it not therefore be for the interest of every farmer to keep no more neat cattle than can be well pastured or soiled in the summer, and fed on English hay, corn fodder, potatoes, turnips, carrots, beets, &c. in the winter, throwing the coarser kinds of hay and straw under them to furnish a warm bed, and to be converted into manure at the same time? By so doing, and by crossing inferior breeds, and raising the best calves, it is in the power of almost every farmer in the course of a few years, without involving himself in debt, greatly to improve his stock, and increase the income of his dairy. I know that this high feeding of milch cows is not generally believed to be profitable, notwithstanding Mr. Oakes and others have proved so satisfactorily that one bushel of Indian corn per week will cause a good cow to yield from seven to ten additional pounds of butter. Allowing the corn to be worth 62½ cents, the extra butter, at 12½ cents per pound, would pay all the additional labour, and afford a good profit (on the corn) besides. But this is not all: the cow would give milk nearly the whole year, be made good beef at the same time, and her calves would be much more valuable. Indian corn, however, is probably not the cheapest article to feed cattle

* If cows are ever allowed to fall very low during the winter, in vain shall you hope to obtain an abundant supply of milk by bringing them into high condition in the summer; for if a cow be lean at the time of calving, no management afterwards will ever bring her to yield for that season any thing like the quantity of milk that she would have done, had she been all the winter in a high condition. *Anderson.*

upon: potatoes, turnips, beets, carrots, pumpkins, &c. are much more easily raised, and will probably answer the same purpose.

Farmers generally would make their pursuits more profitable if they were careful to send to market the best articles, in the neatest order. Good butter, good cheese, good fruit, good cider, good pork, beef and mutton, will always sell, even when the market is glutted with inferior kinds of the same articles. The difference of the expense of raising or preparing the best, and the more ordinary kinds of these commodities, is often very trifling. The butter, for example, offered for sale, is often bad, rancid, and almost worthless. Yet such butter costs almost as much, perhaps often more, than it would to have made it of the best quality. Butter should always be made, salted and preserved by rule. Despise not, therefore, directions on this subject found in books; for it is impossible always to make good butter, if it be carelessly worked over, and salted as chance directs. The difficulty of making good butter, and of sending it uninjured to the market, in the hottest weather, may be easily obviated. For, with very little trouble or expense, ice may be kept in a common cellar the whole season.*

In discussing the means of rendering the pursuit of Agriculture more profitable, Domestic Economy is too important to be omitted. I am well aware that it is extremely difficult to speak

* In the middle or one corner of the cellar may be built a bin. Throw down some boards, and cover the bottom with straw; or, what is better, the spent bark of tanneries, generally known by the name of tan, in sufficient quantity to leave it a foot in thickness under the necessary pressure. In the month of February or March, go to the most convenient pond of fresh water, and obtain a sufficient quantity of ice, cutting or sawing it up in blocks as large as can be conveniently handled, and pile it up as compactly as possible in the middle of the bin, leaving a space of one foot or more all around it; fill this space, and cover the whole with tan or straw, and the ice, unless the cellar be uncommonly open, will keep the whole summer. Two men, and one pair of oxen, will perform all the labour necessary to lay in such a store of ice in one day. Around this ice let the pans of milk be set, and place the pots of cream and butter upon it. Place two or three pounds of ice in each box, and if conveyed thither as expeditiously as from any part of the county of Essex it may be done, it will reach the market in the finest order.

Butter not wanted for immediate use is well proserved as follows:— Take two parts of the best common salt, one part of sugar, and one of saltpetre; beat them up together, and blend the whole completely. Take one ounce of this composition for every pound of butter, work it well into the mass, and close it up for use.

on this subject, without being misunderstood, and giving offence. Those who cultivate the soil deserve to live on its best productions. It is my most sincere desire, that farmers should live well. But the phrase, *live well*, is to be understood living in such a manner as will most promote their happiness, by preserving the health of the body, and tranquillity of the mind; and not living in habits of luxury and intemperance, the most expeditious means of destroying both. I know that it requires greater fortitude than many possess to oppose the fashions of the times, and to change established habits. I also well know that a man cannot always do as he could wish, because his views may not coincide with other members of his family. Still in all cases something may be done towards retrenching expenses that consume the whole of a farmer's income. So long as those engaged in husbandry purchase from other nations a large portion of their daily food and clothing, so long they will be obliged to labour hard, and submit to many real privations, to enable them to defray their current family expenses. It therefore becomes an object of serious concern to them, to learn some way of more cheaply supplying the wants, without diminishing the comforts, of life. Let those who feel interested in this subject review a list of their expenditures in times past, and they will probably be able to discover the means of saving much in future. One exhausting drain on the resources of many farmers is the use of ardent spirits, as a common drink. This not unfrequently consumes their health, cash, and respectability. If therefore the use of strong drinks must be continued, let such as every farmer can prepare for himself be substituted for distilled spirits. Cider, wine, and strong beer, well made and carefully preserved, will surely answer every purpose to which spirituous liquors can be usefully applied. The art of making these ought therefore to be studied by every person desirous of preserving the health of his family, or of husbanding his resources to the best advantage. The most successful practices in this art, time will not permit me to detail. Let the following hints suffice.

By selecting good, sound apples, and properly managing the liquor during and after fermentation, Cider can be made without addition, possessing a fine flavour, and in strength equal to about one fourth its quantity of proof spirit. By the addition of

about twenty pounds of sugar to a barrel of common cider, as it comes from the press, it will fine itself, keep for years, even on the lees, without souring, and be much improved in strength.

Wine, far superior to most that is imported, either for use in sickness or health, may be made from currants, ripe or unripe grapes, cranberries, or other subacid fruits, allowing about a bushel and a half of fruit, and seventy-five pounds of sugar, to the barrel. Good wines made in this manner will cost about fifty cents per gallon. They now readily sell for a dollar. A respectable member of this society, Mr. Caleb Smith, of Danvers, shipped some currant wine of his own making to India, a few years since, and there obtained for it over two dollars a gallon. This wine was made, and kept perfectly well on this long voyage, without the addition of brandy, or other spirit, a circumstance which greatly increases the value of the experiment, and certainly entitles Mr. Smith to the thanks of the community.

Four bushels of barley malted, and a pound of hops, will make a barrel of strong and a barrel of Table Beer. These liquors should be made in the winter, and will be found excellent drinks in the following summer, free from all the objections which many have to new beer and cider at that season. All the materials, for composing this best of strong drinks for labouring men, can be easily raised, and all the work, except malting the barley, which will cost about twenty cents a bushel, can be performed, at a leisure season, by the farmers themselves.

Agriculturalists of Essex! You possess a territory in which are found a great variety of soils; and the means of rendering them fertile are every where abundant. Three fourths of your borders are washed by the waters of the ocean, which are continually throwing on your shores materials for excellent manure, and which afford, without the expense of making canals, all the facilities of a conveyance by water for your surplus produce to all the most important markets on the globe. The same conveyance will bring lime from distant quarries, if it cannot be found at home, at a small advance on its prime cost, to within a few miles of your doors. What then is there to prevent this county from becoming one of the most fertile and productive districts in New-England? Industry is not wanting, and luxury has not

made greater inroads among us than it has in most other places in our favoured land. A more general diffusion of the knowledge acquired by the experience of individuals, a scientific acquaintance with the principles of the art, more enterprise, generous emulation, and noble ambition, among farmers themselves, are what seem to be most necessary to carry the art of husbandry here to a high degree of perfection. These benefits we trust will result from the institution of this society:—An institution, in the success of which, every owner of land ought to feel particularly interested. Eight or nine hundred dollars more are wanted to enable the society to obtain the whole of the bounty so generously proffered by the government of the state. Are there not many present who are willing to contribute to this object three dollars each, and become members of this society for life? Having done this, another important duty remains to be performed; that is, to exert all your powers to render the society respectable, and extend its influence as widely as possible. To do this, it is desirable that every member should make some communication of his success, or exhibit something worthy of notice, on every occasion like the present. Another important duty is, to prevent our annual cattle shows from becoming scenes of riot, drunkenness, gambling, cheating, and dissipation. Let the "Farmer's Jubilee" be sacred to sober joys ,and temperate festivity, throughout the county; but let every good citizen discountenance every thing of a contrary tendency. Then indeed will the farmers of Essex, in unison with every benevolent mind, have reason to bless the institution, and venerate the founders, and all who shall distinguish themselves as members, of the Essex Agricultural Society, to the latest generation.

ERRATA.

Page 21, eighth line from bottom, for October, 1820, read October, 1821.
Page 29, in some of the copies, for D. Cummins, Secretary, Dec. 7, 1819, read F. Howes, Secretary, Jan. 10, 1821.
Page 47, ninth line from bottom, for gratified if he did, read gratified if they did.